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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ़”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10323 (1982): Cranks and Chain Wheels for Mopeds [TED 2:
Automotive Primemovers]

“ज्ञान से एक नये भारत का निर्माण”

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“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

SPECIFICATION FOR CRANKS AND CHAIN WHEELS FOR MOPEDS

1. Scope — Covers requirements for cranks and chain wheels intended for starting and pedalling purposes of mopeds. The filament is to the centre axle of the mopeds.

2. Shape and Dimensions — The recommended shape and dimensions are given in Fig. 1 to 3. The right pedal crank assembly is shown in Fig. 4. Where agreed to, the parameters given below may be as between purchaser and suppliers.

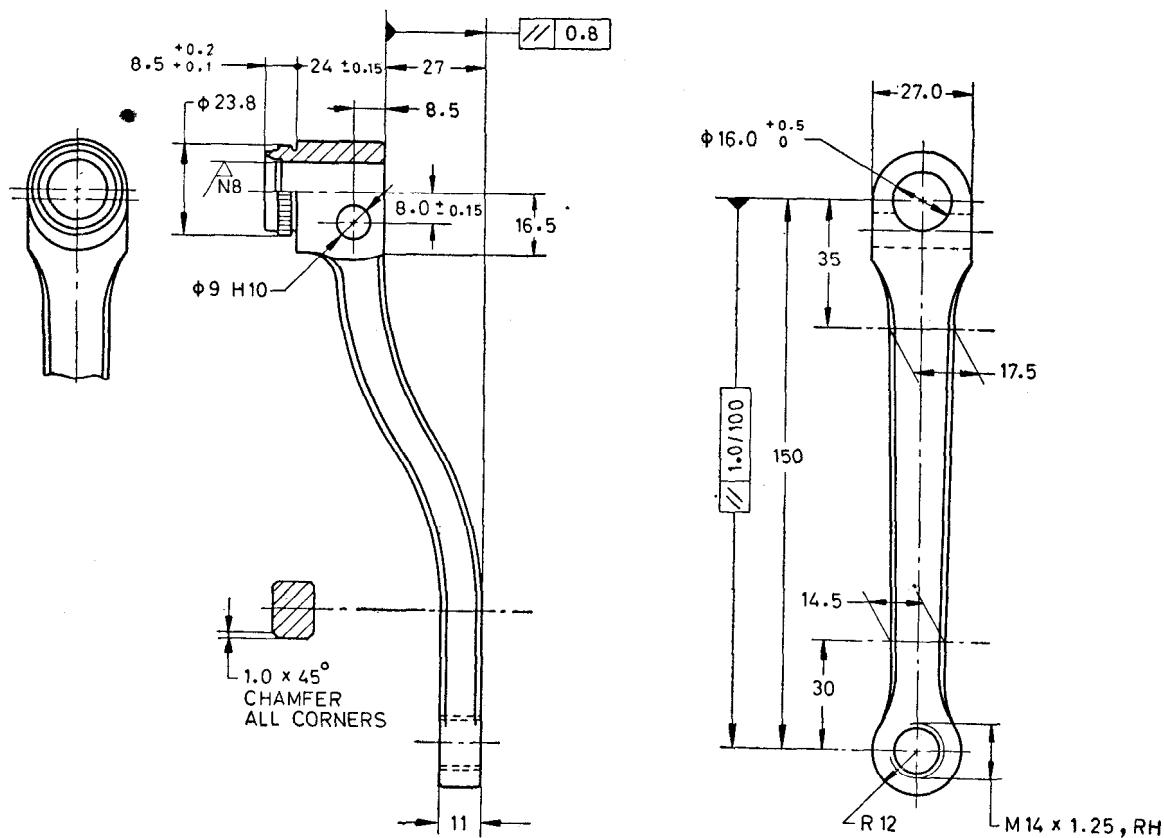
- a) Bent height of cranks,
- b) Radii of bends,
- c) Centre distance of the central axle hole and pedal axis,
- d) Pitch circle diameter of chain wheel,
- e) Number of teeth on chain wheel, and
- f) Design of serrations in right pedal crank corresponding to central hole of the chain wheel.

3. Materials — The cranks shall be made from steel conforming to the following Indian Standards:

IS : 1570 (Part I)-1978 'Schedules for wrought steels: Part I Steels specified by tensile and/or yield properties (first revision)'.

IS : 7283-1974 'Hot rolled bars for production of bright bars'.

The minimum ultimate tensile strength of steel for cranks shall be 550 N/mm² (55 kgf/mm²):



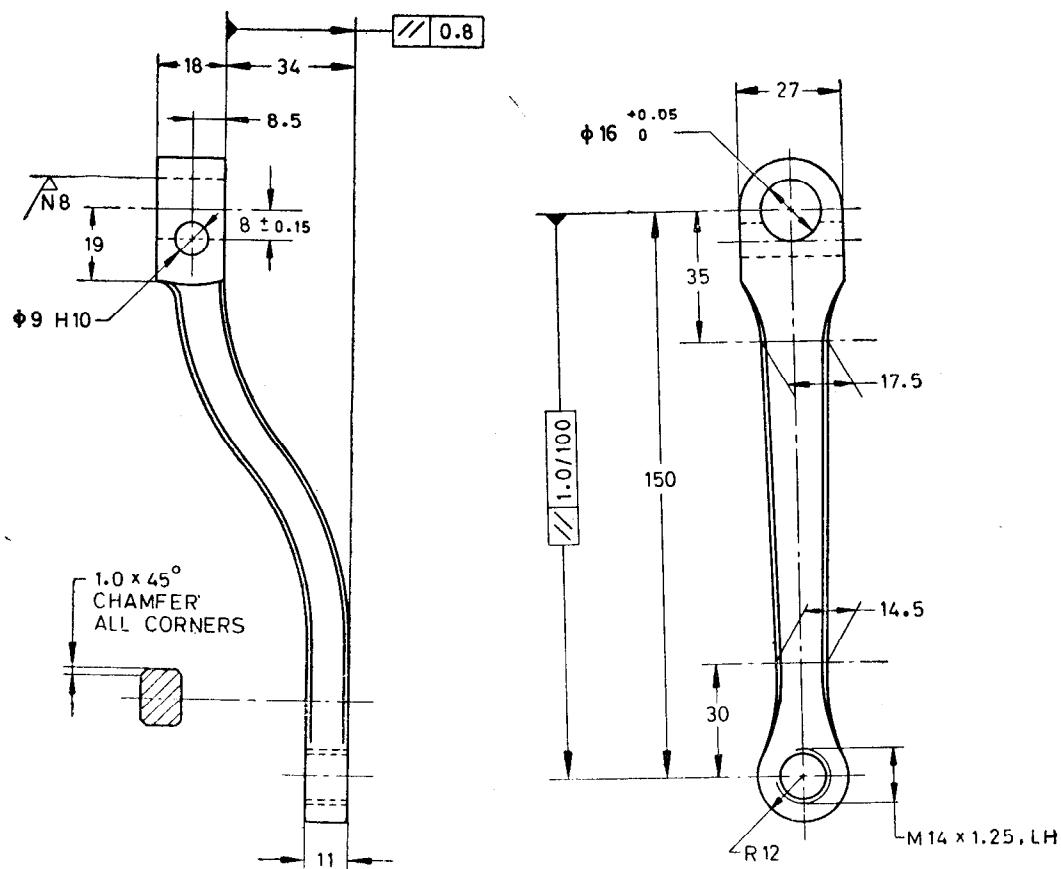
All dimensions in millimetres.

FIG. 1 RIGHT HAND (RH) PEDAL CRANK

Adopted 29 November 1982

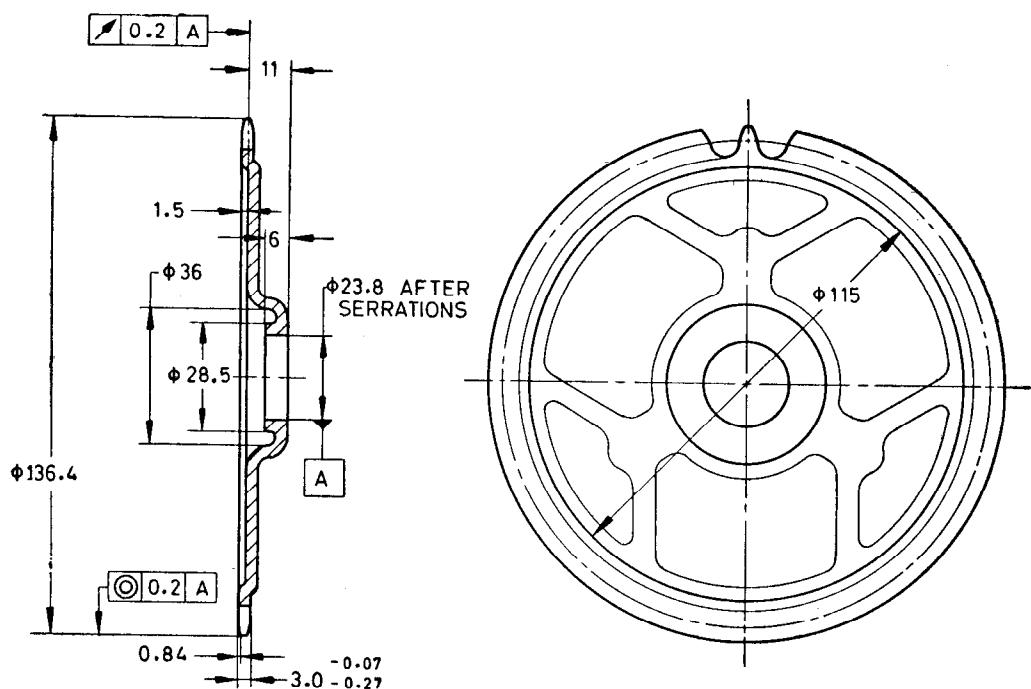
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Gr 2



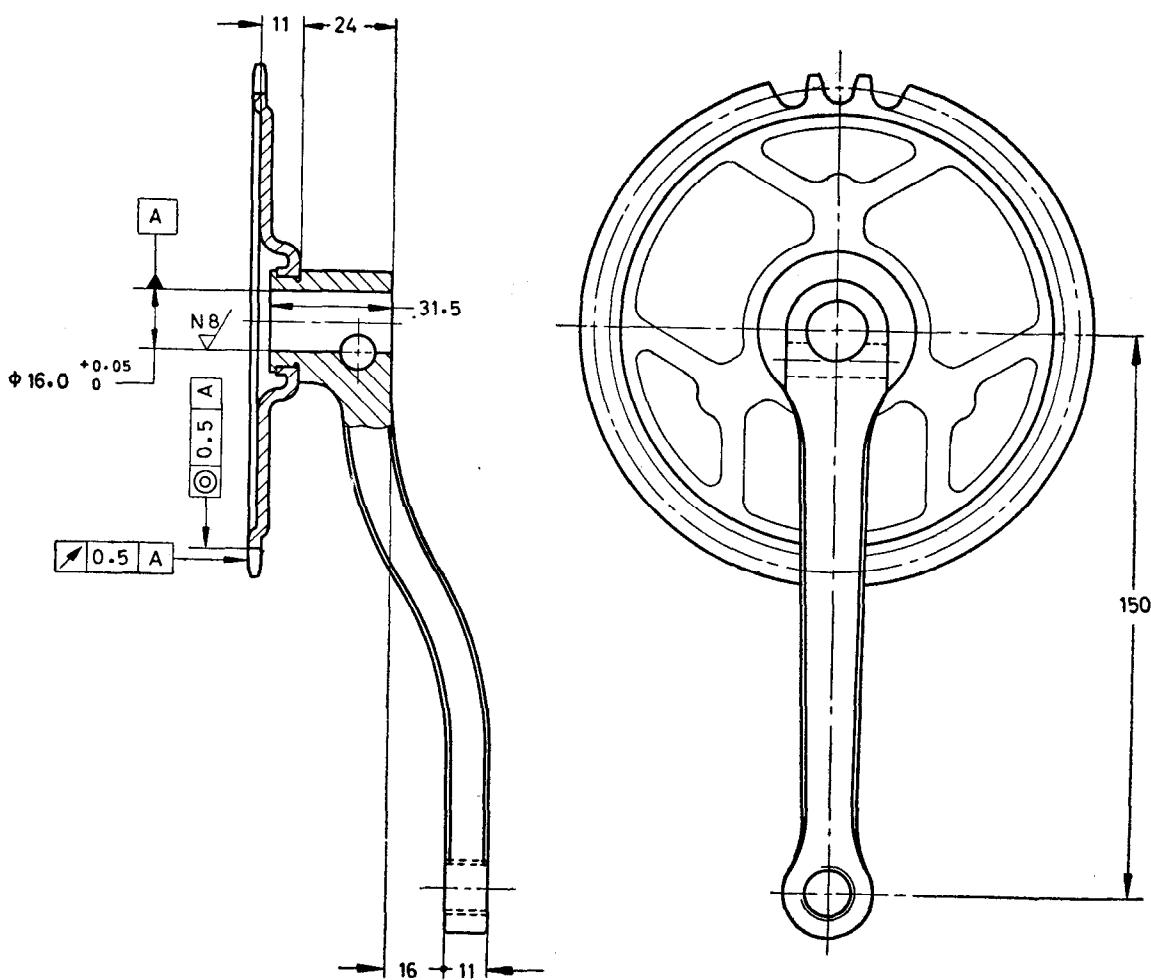
All dimensions in millimetres.

FIG. 2 LEFT HAND (LH) PEDAL CRANK



All dimensions in millimetres.

FIG. 3 DIMENSIONS FOR CHAIN WHEEL



Note — Bore $\phi 16$ and Hole $\phi 9.0$ are preferably to be finish machined after spinning of chain wheel.

All dimensions in millimetres.

FIG. 4 RIGHT HAND PEDAL CRANK—CHAIN WHEEL ASSEMBLY

3.1 The chain wheel shall be made of steel conforming to IS : 226-1975 'Structural steel (standard quality) (first revision)' or IS : 513-1973 'Cold rolled carbon steel sheets (second revision)'.

In addition to minimum properties specified, the steel used for cranks and chain wheels shall be suitable for fabrication purposes.

4. General Requirements — The cranks shall have no forging defects, such as cracks, pits, scales, burrs, etc. The holes shall be smooth and square to the centre line of the crank and parallel. All sharp edges are to be rounded off by grinding.

4.1 All forging dimensions shall be in accordance with tolerances specified in IS : 3469 (Parts I to III)-1974 'Tolerances for closed die steel forgings (first revision)'.

4.2 The chain wheels shall be true and in one plane concentric with the hole on the cranks for centre axis. The teeth shall be free from burrs, cracks or any other defects. The teeth profile shall be such as to suit chains conforming to IS : 1283-1968 'Specification for bicycle free wheels and chains (first revision)'.

5. Finish — Cranks and chain wheels shall be nickel and chromium plated. The plating shall conform to service Grade No. 3 of IS : 1068-1968 'Specification for electroplated coatings of nickel and chromium on iron and steel (first revision)'. The plating shall be uniform and free from all defects.

6. Tests

6.1 All forging defects shall be checked by non-destructive test methods as given in IS : 7743-1975 'Recommended practice for magnetic particle testing and inspection of steel forgings'.

6.2 The crank and chain wheel assembly shall be tested as follows:

The assembly shall be rigidly fixed in a vertical plane having the crank horizontal. Through suitable means weight shall be applied on the hole for pedal spindle.

The assembly shall sustain a weight of 2224 N (227 kgf) without breaking at the joint, loosening or showing any sign of yielding.

6.3 The electroplating requirements shall be tested in accordance with IS: 1068-1968.

7. Packing — The cranks and chain wheels shall be packed in accordance with the best prevalent trade practice.

8. Marking — Shall be marked with manufacturer's name or trade-mark, made in India if required and model number, if any.

8.1 IS/ Certification Marking Scheme — Details available with the Indian Standards Institution.

9. Sampling

9.1 Unless otherwise agreed to between the supplier and the purchaser, the procedure as given in IS: 2500 (Part I)-1973 'Sampling inspection tables: Part I Inspection by attributes and by count of defects (*first revision*)' shall be followed for sampling inspection. The inspection level and sampling plan for various characteristics as given in **9.1.1** to **9.1.3** shall be followed.

9.1.1 For the characteristics, dimensions, workmanship and finish the scale of sampling shall be corresponding to inspection level II given in Table 1 of IS: 2500 (Part I)-1973.

9.1.2 For the characteristics given in **9.1.1**, the sampling plan shall be corresponding to Acceptable Quality Level (AQL) value of 1.5 percent given in Table 2 of IS: 2500 (Part I)-1973.

9.1.3 For tests the sampling plan to be followed shall be corresponding to Acceptable Quality Level (AQL) of 1.0 percent given in Table 1 of IS: 2500 (Part I)-1973.

E X P L A N A T O R Y N O T E

This standard is one of the series of Indian Standards published for mopeds. Reference may also be made to IS: 1281-1968 'Specification for bicycle cranks and chain wheels (*first revision*)' and IS: 2403-1975 'Specification for transmission steel roller chains and chain wheels (*first revision*)'.